

An Analysis of Puffery used in Online Advertisements and Its Impact on the attitude of Gen Z

¹Dr. Uzma Rukhsar,

Assistant Professor,
School of Management, GD Goenka University.

uzma.rukhsar@gdgu.org

²Mr. Waseem Saeed Khan

Assistant Professor,
HIERANK Business School, NOIDA

waseem.saeed40@gmail.com

³Dr. Nishkrati Varshney,

Assistant Professor
A J Institute of Management, Manglore

nishkrati@ajimmanglore.ac.in

⁴Dr. Syed Mohd Jamal Mahmood

Assistant Professor,
School of Management, GD Goenka University.

sm.mahmood@gdgu.org

ABSTRACT:

Purpose: This research aims to determine the impact of Puffery on Generation Z, which is the most active user of social media or electronic commercials.

Design/Methodology/Approach: For data collection, a structured questionnaire was employed, out of which a descriptive research design was adopted to include 100 participants from Gen Z in Delhi NCR. In the current study, the collected study data was analyzed, and to determine the impact of poverty and demographic factors, the statistical tools used were ANOVA and t-test.

Findings: Regarding the investigation discourses, it also pointed out that Puffery in web ads has a noteworthy impact on Gen Z's perceptions. The findings indicated that the time spent on these social media platforms was a vital predictor of those attitudes. As a result, the research gives one the understanding that gender does not influence the perception of Puffery in any way. When it comes to social media, Generation Z's favourite is Instagram, followed by YouTube.

Limitations: Further generalization of the study results is possible only for a specific demographic and geographical context. Consequently, the outcomes of the systematic qualitative research study of high-ranking professionals' working conditions in this paper need further inquiry to contrast the presented results with a more general population sample. Thirdly, The study design adopted was cross-sectional, and the data collected depended on respondents' perception and memory; therefore, it could be subject to social desirability bias.

Implications: According to the study, paying attention to Gen Z members in the advertisements they encounter on the Internet is essential and quite critical. There are pros and cons when it comes to Puffery. Therefore, the marketers and the users or consumers should start to evaluate the ethics behind the aspect and embrace the safe and responsible marketing of the products. Therefore, more attempts should be made to determine the possible effects of Puffery on consumers after some time elapses.

KEYWORDS: Puffery Advertisement, Online Advertisements, Generation- Z

Introduction

Generation Z, the first generation born and brought up entirely within the digital era, plays a vital role in today's dynamic consumer environment. Gen Z, active social media users, are both consumers and producers, powering the dynamics of modern commerce. The present study explores how Puffery in online ads influences attitudes among Gen Z users. This is the first generation to have a significant share of social media usage. Social media, the prominent space for the majority, has transformed how media is broadcasted, compelling marketers to leverage this space for advertising.

Online advertisements have recorded tremendous growth for the last ten years. The arrival of new media platforms and more informative communication channels has transformed the advertising landscape on a global level. As a result, online advertising has become one of the most popular and promising advertising mediums, with much room for further development.

From the beginning, advertising has played a significant role in helping marketers communicate with their target consumers, who are likely to respond to such messages and make purchases. However, as the number of advertisers grew, the sheer volume of communications made it challenging for marketers to make their products stand out, as everyone was using various innovations to reach their consumer's minds. That is when Puffery took birth. Puffery Advertising is defined as "advertising or other sales representations which praise the item to be sold with subjective opinions, superlatives, or exaggerations, vaguely and generally, stating no specific facts." It refers to the way marketers communicate and present their brands in advertisements and sales pitches. Puffery, or exaggerations in advertising, has its roots in the sixteenth century, the time when the selling approaches and ethical or legal considerations were very different from today (Preston, 1996)

Review of Literature

Many studies on digital marketing have been conducted concerning the strategies that can affect consumers' behaviour on a bigger scale. This research is based on recognition: The world is going from analogue to digital, and marketing is no exception. As a result, more digital marketing strategies have emerged, including social media marketing and search engine marketing, among others (Prajapati, 2015).

Gurung and Shabnam(2021) studied the effect of puffery advertisements on children. The researcher believed that children do not understand the difference between the real and natural world, and they believe everything they see on television since they invest most of their time watching their favourite programs. The researcher emphasized the types of appeals used in puffery advertisements to exaggerate their claims, such as weasel words, misleading information, and concealment of facts. Dr. Shabnam also highlighted the standards the Advertising Standards Council of India (ASCI) laid down to keep the advertisements in check. The author found out that there were both positive and negative outcomes of puffery advertisements on children. The study found that Puffery compels the child to make unnecessary purchases. This badly affects the child, mainly the food habits, as Puffery heavily influences children in food advertisements.

Halim, Farahani et Al. (2020) attempted to analyze the impact of puffery slogans in beauty magazines. The study emphasized that companies that manufacture products use beauty magazines as one of the media to advertise the products that they purchase. The research focused on two popular beauty magazines in Malaysia, Cleo and Female. This research found that from 2015 to 2018, there was a decline in the use of exaggerated claims, or Puffery, in advertising taglines for beauty products. The results indicate that marketers moved away from those strategies, considering them less trustworthy

and less successful in engaging with consumers. The study found that consumers who were already aware of the products were not influenced or persuaded by puffery claims as they already knew

about the level of satisfaction the product had rendered. Moreover, Puffery did not affect potential consumers, as the modern era focuses on search-based information, which is readily available at their fingertips, rather than exaggerated claims.

Jing Xu et al.(2010) studied the behaviour of undergraduates toward puffery advertisements. The research focused on understanding the impact of Puffery on the target audience and investigating the sources through which they were receiving the advertisements. The study found that respondents considered Puffery informative when they had nil or little information or knowledge about the product category. On the other hand, the respondents who knew the product category found the puffery advertisements to be only persuasive and not informative, i.e., no critical information was conveyed through the advertisements, only exaggeration. The puffery advertisements were only found to be creating hype about the product. The study also investigated respondents to identify the sources of information for the communication; the sources considered were professional and popular magazines. It was highlighted through the experiments the authors conducted that the responses were judgemental, i.e., respondents gave more importance to professional magazines. The notion behind this was that the target audience of professional magazines was well-informed about the product category, and no media could mislead the target audience that already knew the brand.

Kriti and Karuna(2018) studied online advertisements's impact on online consumers. The study found that consumers were more inclined toward video and pop-up advertisements due to their appealing colours, animation, and graphic content. Furthermore, it was also revealed that online advertisements impacted the purchase decisions of most respondents as these advertisements gave information about new trends in the market, discounts, and coupons while also helping in brand recall. As these ads would pop up anytime while surfing the Internet, they reminded consumers about the brand, especially celebrity endorsements.

Qaderi Arzo(2022) conducted a study to explore how online advertisements and brand awareness influence consumer purchasing decisions. The study's objectives were to find the relationship between the buying behaviour of consumers and online advertisement, as well as the relationship between consumers' brand awareness and their buying behaviour. Furthermore, the author also attempted to study the relation of demographics such as age, occupation, education, and marital status on consumer buying behaviour. The study found that occupation and education do not positively impact people's buying behaviour. Age and marital status have positive impacts.

Amarjeet et al. (2022), in their study "Generation Z's Perceptions of Digital Marketing Techniques", explore various digital marketing strategies, including, 'influencer marketing, 'email marketing, and 'online reviews, and how these digital marketing techniques lead to engagement. These digital marketing techniques are evaluated based on five different aspects, viz. 'engagement', 'clarity', 'relevance', and 'attractiveness'. Studies confirm a significant revenue increase for the firms that use online advertising approaches and 'customization'. With the help of the quantitative data collected from the sample, different data analysis techniques were used to analyze the data and draw insights into the criteria selected to evaluate the different digital marketing techniques.

Objectives of the study

1. To analyze whether Puffery used in online advertisements impacts the Attitude of Gen Z.
2. To study the difference between gender and time spent by Gen Z on Social Media regarding their attitudes toward puffery advertisements.

Hypotheses

H01: Puffery's online advertisements have no significant impact on the Attitude of Gen Z.

H02: There is no significant difference between the time spent by Gen Z on social media platforms and their Attitude towards puffery advertisements.

H03: There is no significant difference between male and female students' attitudes towards puffery advertisements.

METHODOLOGY

The study employed a descriptive research design, and the survey method was used to collect the primary data. The target respondents for the study were Generation Z, which belongs to the age group of 18 to 25 years from Delhi NCR. Convenience sampling was used to select the respondents. The data was collected from April to October 2023 with the help of a structured questionnaire that was circulated online via Google Forms. The questionnaire included 20 items, ten of which were measured using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A total of 100 valid responses were received that constituted the final sample. There were 48 females and 52 males in the sample.

DATA ANALYSIS

The collected data were analyzed using SPSS.

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	52	52.0	52.0	52.0
Valid female	48	48.0	48.0	100.0
Total	100	100.0	100.0	

Table :1

The table above shows the variation in gender. 100 questionnaires were shared online using Google Forms, which 52 males and 48 females filled out.

2. Which Social media platform do you use the most?

Social Media Platforms

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Snapchat	7	7.0	7.0	7.0
Valid linked in	1	1.0	1.0	8.0
Valid youtube	30	30.0	30.0	38.0
Valid Instagram	59	59.0	59.0	97.0

Facebook	3	3.0	3.0	100.0
Total	100	100.0	100.0	

Table:2

The table above shows the frequency of social media platforms used by Gen Z, and it was found that the majority of the respondents, that is, 59%, were using Instagram; hence, Instagram was the primary platform for puffery advertisements, followed by YouTube with 30% of the respondents gaining knowledge regarding products from YouTube. The majority did not use other social media platforms, such as Snapchat, Facebook, and LinkedIn, with responses of 7%, 3% and 1%, respectively. Therefore, Instagram is the most popular platform among Gen Z users.

3. How frequently do you encounter online advertisements while using the Internet or social media platforms?

4.

Frequency of Advertisements

	Frequency	Percent	Valid Percent	Cumulative Percent
multiple times a day	87	87.0	87.0	87.0
once a day	4	4.0	4.0	91.0
Valid few times a week	6	6.0	6.0	97.0
rarely	3	3.0	3.0	100.0
Total	100	100.0	100.0	

Table :3

The table above reveals that 87% of the respondents encounter online advertisements almost multiple times a day. In comparison, only 6% of the respondents see advertisements a few times a week, 4% see them once a day, and 3% see them rarely. Hence, the % of the respondents that is 87% see ads regularly.

4. What is the range of time spent on social media?

Time Spent on Social Media

	Frequency	Percent	Valid Percent	Cumulative Percent
less than 5 hours	23	23.0	23.0	23.0
Valid 5-10 hours	49	49.0	49.0	72.0
more than 10 hours	28	28.0	28.0	100.0
Total	100	100.0	100.0	

Table:4

From the above table, it can be illustrated that out of 24 hours a day, 49 % of Gen Z spend 5-10 hours daily on social media platforms, while 28% of them spend more than 10 hours, and 23% of respondents spend less than 5 hours in a day on social media platforms. Therefore, most of the respondents, 49%, spend 5-10 hours daily on social media platforms.

ANOVA

A one-way ANOVA test was employed to test the difference between the time spent by Gen Z on social media platforms and their Attitude toward puffery advertisements. Emmanuel. I. Orji et al.¹ They concluded in their study that time spent on social media significantly influenced students' attitudes concerning academic performance. Specifically, students who often spent more time on their social media had their Attitude toward their academic performance greatly affected.

Null Hypothesis: There is no significant difference between the time spent by Gen Z on social media platforms and their Attitude toward puffery advertisements.

Descriptive								
ATT								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
less than 5 hours	23	20.4783	3.98713	.83137	18.7541	22.2024	14.00	28.00
5-10 hours	49	21.7347	3.69558	.52794	20.6732	22.7962	14.00	32.00
more than 10 hours	28	24.2500	4.55928	.86162	22.4821	26.0179	17.00	35.00
Total	100	22.1500	4.21966	.42197	21.3127	22.9873	14.00	35.00

Table:5

ANOVA					
ATT					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	196.210	2	98.105	6.075	.003
Within Groups	1566.540	97	16.150		
Total	1762.750	99			

Table: 6

Table 6 shows that time spent on social media platforms by Gen Z has a significant influence on their Attitude toward puffery advertisements (df=99; F=6.075; p-value=0.03). Therefore, the Null Hypothesis stands Rejected.

T-test

The test was used to see whether there was a difference between the attitudes of males and females watching advertisements on social media platforms.

Null Hypothesis: There is no significant difference between male and female students' attitudes toward puffery advertisements.

¹ Influence Of Students' Spent Time On Social Media On Academic Performance Of Science Education Students, Webology (ISSN: 1735-188X) Volume 19, Number 2, 2022 p.p. 7638-7650 <https://www.webology.org/>

Group Statistics

	gender	N	Mean	Std. Deviation	Std. Error Mean
ATT	male	52	22.0962	3.94700	.54735
	female	48	22.2083	4.53806	.65501

Table:7

Independent Samples Test

	Levene's Test for Equality of Variances	t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ATT	Equal variances assumed	.275	.601	-.132	98	.895	-.11218	.84883	-1.79666	1.57230
	Equal variances are not assumed.			-.131	93.528	.896	-.11218	.85360	-1.80713	1.58278

Table:8

Table 8 shows that a substantial difference did not exist between males and females with regard to their attitudes. This implies that Puffery used in online advertisements was the same for male and female respondents but impacted those spending more time on it. (df=93.528; F=.275; p-value=0.601). This implies that female and male students have the same Attitude toward puffery advertisements. Hence, the Null Hypothesis stands Accepted.

Null Hypothesis: No substantial difference exists in how male and female students respond to puffery advertisements.

Regression

Regression was analyzed to test the impact of Puffery used in online advisements on the Attitude of Gen Z.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.531 ^a	.282	.275	3.59319

a. Predictors: (Constant), PFF

Table:9

From the regression analysis in Table 9, the R-squared value is 0.282, which means that an independent variable, Puffery, explains 28.2% of the variability in the dependent variable, Gen Z's Attitude.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	497.469	1	497.469	38.531	.000 ^b
	Residual	1265.281	98	12.911		
	Total	1762.750	99			

a. Dependent Variable: ATT

b. Predictors: (Constant), PFF

Table:10

Table 10 shows the ANOVA results, and the p-value is 0.00, which is well below the threshold of 0.05. A significant relationship exists between the dependent variable, Attitude, and the independent variable, Puffery.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.445	1.604		7.757	.000
	PFF	.992	.160	.531	6.207	.000

a. Dependent Variable: ATT

Table:11

In Table 11, the coefficient findings have shown a beta value of 0.531, which means a change of one unit in the independent variable ATT would vary the dependent variable by 0.531 units. A positive beta indicates that the dependent variable depends directly on the independent variable. In this context, the Null Hypothesis is rejected with the conclusion that online advertising does not affect Gen Z's Attitude because it is insignificant.

Findings and Conclusion

The study “An Analysis of Puffery Used in Online Advertisements and Its Impact on Gen Z” concluded that Puffery highly impacts the attitudes of Gen Z in online advertisements. According to the results, it was found that the time spent on social media platforms makes a difference in Attitude; however, it does not take into account the gender of the viewer, as no significant difference in Attitude was found between males and females.

Furthermore, it can be concluded that Instagram (59%) is the most popular media among Gen Z, followed by YouTube (30%). These two social media platforms were found to be releasing the most advertisements. Moreover, the influence stems from the time spent on these platforms. Furthermore, the reason for the influence is the time spent by the respondents on these platforms. Respondents who spent more than five hours a day on social media were exposed to advertisements multiple times, which highly influenced their Attitude toward products using Puffery in their online advertisements.

References

1. Amarjeet et al (2022) GENERATION Z's PERCEPTIONS OF DIGITAL MARKETING TECHNIQUES', JOURNAL OF GENERAL MANAGEMENT RESEARCH Vol. 9, Issue 2 pp. 33-43 [https://www.scmsnoida.ac.in/assets/pdf/Paper%203%20\(1\).pdf](https://www.scmsnoida.ac.in/assets/pdf/Paper%203%20(1).pdf)
2. Bakhsi, G. and Gupta K.S. (2013) "Online advertising and its impact on Consumer buying behavior". International Journal of Research in Finance & Marketing, Vol. 3, Issue 1 (ISSN 2231-5985).
3. Raghuvver, K., Gongada, T. N., Nimma, D., Aarif, M., Samudrala, K., & Bala, B. K. (2024, October). Enhancing Fraud Detection in Online E-Commerce Transactions through Deep Learning Auto encoder Model. In *2024 International Conference on Intelligent Systems and Advanced Applications (ICISAA)* (pp. 1-6). IEEE.
4. Cheenepalli Hemanth Reddy (2024), "IMPACT OF SOCIAL MEDIA MARKETING ON GEN Z BUYING BEHAVIOR", Journal of Emerging Technologies and Innovative Research (JETIR), Volume 11, Issue 4 pp. 88-103 <https://www.jetir.org/>
5. Tripathi, M. A., Singh, S. V., Rajkumari, Y., Geethanjali, N., Kumar, D., & Aarif, M. (2024). The Role of 5G in Creating Smart Cities for Achieving Sustainable Goals: Analyzing the Opportunities and Challenges through the MANOVA Approach. *Advanced Technologies for Realizing Sustainable Development Goals: 5G, AI, Big Data, Blockchain, and Industry 4.0 Application*, 77-86.
6. Dr. Shabnam Gurung, (2021) "PUFFERY ADVERTISEMENT IN INDIA AND ITS IMPACT ON CHILDREN", International Journal of Education, Modern Management, Applied Science & Social Science (IJEMASSS) 17 ISSN: 2581-9925, Volume 03, No. 03(II), July - September 2021, pp.17-22, <https://www.inspirajournals.com/uploads/Issues/1440230271.pdf>
7. Halim, Farahani et Al. (2020), An Analysis of Puffery in Advertising Slogans, International Journal of Academic Research in Business and Social Sciences
8. Tripathi, M. A., Goswami, I., Haralayya, B., Roja, M. P., Aarif, M., & Kumar, D. (2024). The Role of Big Data Analytics as a Critical Roadmap for Realizing Green Innovation and Competitive Edge and Ecological Performance for Realizing Sustainable Goals. In *Advanced Technologies for Realizing Sustainable Development Goals: 5G, AI, Big Data, Blockchain, and Industry 4.0 Application* (pp. 260-269). Bentham Science Publishers.
9. Influence Of Students' Spent Time On Social Media On Academic Performance Of Science Education Students, Webology (ISSN: 1735-188X) Volume 19, Number 2, 2022 p.p. 7638-7650 <https://www.webology.org/>
10. JING XU et al. (2010), "Puffery in Advertisements: The Effects of Media Context, Communication Norms, and Consumer Knowledge", Journal of Consumer Research, Vol. 37. https://carlsonschool.umn.edu/sites/carlsonschool.umn.edu/files/2018-10/JCR_Xu%20and%20Wyer%202010_Puffery%20in%20Ads.pdf
11. Karuna Kriti (2018), 'A study of impact of Online advertising on Online Consumers', 'Journal of Emerging Technologies and Innovative Research (JETIR)' Volume 5, Issue 11 pp. 659-664, www.jetir.org
12. Elkady, G., Sayed, A., Mukherjee, R., Lavanya, D., Banerjee, D., & Aarif, M. (2024). A Critical Investigation into the Impact of Big Data in the Food Supply Chain for Realizing Sustainable Development Goals in Emerging Economies. In *Advanced Technologies for Realizing Sustainable Development Goals: 5G, AI, Big Data, Blockchain, and Industry 4.0 Application* (pp. 204-214). Bentham Science Publishers.

13. Kriti, Karuna (2018), “A study of impact of Online advertising on Online Consumers”, *Journal of Emerging Technologies and Innovative Research (JETIR)*, Volume 5, Issue 11 pp. 659-664) www.jetir.orghttps://www.jetir.org/papers/JETIR1811B97.pdf
14. Dagar, R., Srivastav, R., Aarif, M., Lohiya, A., & Muthuperumal, S. (2024, October). Enhancing Workplace Efficiency with the Implementation of the Internet of Things to Advance Human Resource Management Practices. In *2024 International Conference on Intelligent Systems and Advanced Applications (ICISAA)* (pp. 1-6). IEEE.
15. Nandan Kumar Dey (2021), ‘ADVERTISING PUFFERY IN THE INDIAN EDUCATION SECTOR: A COMPARATIVE ANALYSIS OF ELECTRONIC AND PRINT MEDIA PUFFERY AND RECOMMENDATIONS’, *International journal of advanced research and innovative ideas in education*’ Vol-7 Issue-2 pp. 999-1002 <https://ijariie.com/>
16. Geetha, B. T., Chakravarthi, D. S., Aarif, M., Biswas, P. C., Roy, C. S., & Moharekar, T. T. (2024). Studying the use of Blockchain for the Management of Secure and Effective Electronic Health Records. In *Recent Technological Advances in Engineering and Management* (pp. 179-183). CRC Press.
17. Preston, I. (1996). *Books on Google Play the Great American blow-up: puffery in advertising and selling.* University of Wisconsin Press.
18. Krishna, S. J. S., Aarif, M., Bhasin, N. K., Kadyan, S., & Bala, B. K. (2024, July). Predictive Analytics in Credit Scoring: Integrating XG Boost and Neural Networks for Enhanced Financial Decision Making. In *2024 International Conference on Data Science and Network Security (ICDSNS)* (pp. 1-6). IEEE.
19. Preston, I. L. (1996). *The great American blow-up: Puffery in advertising and selling.* University of Wisconsin Press.
20. Muda, I., Santosh, K., Aarif, M., Natrayan, L., Kaliappan, S., & Muthuperumal, S. (2024, July). Innovative Blockchain Protocol for Enhancing Transaction Security and Integrity in Decentralized Financial Ecosystems. In *2024 International Conference on Data Science and Network Security (ICDSNS)* (pp. 1-6). IEEE.
21. Qaderi Arzo, (2022), “Impact of Online Advertisement and Brand Awareness on Consumers” Buying Behavior: A Case Study of Istanbul” *International Journal of Science and Research (IJSR)*, Volume 11 Issue 7 pp.1539-1546 www.ijsr.nethttps://www.ijsr.net/archive/v11i7/SR22718181544.pdf
22. Alijoyo, F. A., Prabha, B., Aarif, M., Fatma, G., & Rao, V. S. (2024, July). Blockchain-Based Secure Data Sharing Algorithms for Cognitive Decision Management. In *2024 International Conference on Electrical, Computer and Energy Technologies (ICECET)* (pp. 1-6). IEEE.
23. Vol. 10, No. 7, pp. 627-631 https://www.researchgate.net/profile/Zulkarnian-Ahmad/publication/347221563_An_Analysis_of_Puffery_in_Advertising_Slogans/links/5fe1ddab92851c13feadc448/An-Analysis-of-Puffery-in-Advertising-Slogans.pdf?origin=publication_detail
24. Sabera, G., Manoranjini, J., Aarif, M., Rao, V. S., & Anandaram, H. (2024, July). Combating Fake News in Social Media by Enabling Deep Convolutional Neural Network-Based Detection and Mitigation Strategies. In *2024 Third International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT)* (pp. 1-6). IEEE.
25. Rajkumari, Y., Jegu, A., Fatma, G., Mythili, M., Vuyyuru, V. A., & Balakumar, A. (2024, October). Exploring Neural Network Models for Pronunciation Improvement in English Language Teaching: A Pedagogical Perspective. In *2024 International Conference on Intelligent Systems and Advanced Applications (ICISAA)* (pp. 1-6). IEEE.

26. Aarif, M., Anjum, A., Sharma, T., Arikrishnan, A., Rao, V. S., & Balakumar, A. (2024, July). Implementing Fuzzy Logic in Cognitive Sensor Networks for Environmental Monitoring. In *2024 Third International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT)* (pp. 1-6). IEEE.
27. Ravichandran, K., Virgin, B. A., Patil, S., Fatma, G., Rengarajan, M., & Bala, B. K. (2024, July). Gamifying Language Learning: Applying Augmented Reality and Gamification Strategies for Enhanced English Language Acquisition. In *2024 Third International Conference on Smart Technologies and Systems for Next Generation Computing (ICSTSN)* (pp. 1-6). IEEE.
28. Balavivekanandhan, A., Gummadi, A., Aarif, M., Bhasin, N. K., Gulati, K., & Raj, I. I. (2024, July). Creating A Resilient Blockchain Framework To Enhance The Efficiency And Security Of Data Management Within Internet Of Things Networks. In *2024 Third International Conference on Smart Technologies and Systems for Next Generation Computing (ICSTSN)* (pp. 1-6). IEEE.
29. Sharma, M., Chinmulgund, A., Kuanr, J., & Fatma, G. (2024, April). The Future of Teaching: Exploring the Integration of Machine Learning in Higher Education. In *2024 International Conference on Knowledge Engineering and Communication Systems (ICKECS)* (Vol. 1, pp. 1-6). IEEE.
30. Orosoo, M., Goswami, I., Alphonse, F. R., Fatma, G., Rengarajan, M., & Bala, B. K. (2024, March). Enhancing Natural Language Processing in Multilingual Chatbots for Cross-Cultural Communication. In *2024 5th International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV)* (pp. 127-133). IEEE.